CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/WNo.10/KRIDL/CSR-08/123i/CEMENT/2016-17 Date: 22.08.2016

TEST REPORT ON CEMENT

* CUSTOMER	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
*AGENCY	:	**Executive Engineer,** KRIDL, Bangalore.
*NAME OF THE WORK	:	Improvements to roads and drains at 1st Main and 4th Cross Nanjappa Layout in Ward No. 10, BBMP, Bangalore.
REFERENCE	:	BBMP/AEE/VSD/52/2016-17 Dated: 20.08.2016
SAMPLE ID	:	Cement – Sample 4
SAMPLE RECEIVED ON	:	20.08.2016
PERIOD OF TESTING	:	20.08.2016 to 22.08.2016

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	29.50%	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	160 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	425 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/WNo.10/KRIDL/CSR-08/123i/SAND-Gradation/2016-17 : 22.08.2016

TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Executive Engineer,** KRIDL, Bangalore.

*** Name of Work** : Improvements to roads and drains at 1st Main and 4th Cross Nanjappa Layout in Ward No. 10, BBMP, Bangalore.

Reference : BBMP/AEE/VSD/52/2016-17 Dated: 20.08.2016

Technical Reference : IS : 2386 Part 1 - 1963 RA-2007

Sample ID : Fine Aggregates - Sample 4

Sample Received on : 20.08.2016

Date of Testing : 22.08.2016

Total Wt. of Aggregates in gms **1000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	93.11	90-100	90-100	90-100	95-100
2.36	78.54	60-95	75-100	85-100	95-100
1.18	57.68	30-70	55-90	75-100	90-100
600 Micron	38.34	15-34	35-59	60-79	80-100
300 Micron	15.47	5-20	8-30	12-40	15-50
150 Micron	2.22	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

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Remarks : This sample is under Zone-II specific limits.

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Job No.: CTCE/BBMP/WNo.10/KRIDL/CSR-08/123i/AGG/GR/2016-17 : 22.08.2016

TEST REPORT ON COARSE AGGREGATES

* Customer	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: **Executive Engineer,** KRIDL, Bangalore.
* Name of Work	: Improvements to roads and drains at 1st Main and 4th Cross Nanjappa Layout in Ward No. 10, BBMP, Bangalore.
Reference	: BBMP/AEE/VSD/52/2016-17 Dated: 20.08.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (40mm) - Sample 4
Sample Received on	: 20.08.2016
Date of Testing	: 22.08.2016

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.13	95-100	85-100
20	33.46	30-70	0-20
10	12.27	10-35	0-5
4.75	1.91	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits.

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Job No.: CTCE/BBMP/WNo.10/KRIDL/CSR-08/123i/AGG/GR/2016-17 : 22.08.2016

TEST REPORT ON COARSE AGGREGATES

* **Customer**	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* **Agency**	: **Executive Engineer,** KRIDL, Bangalore.
* **Name of Work**	: Improvements to roads and drains at 1st Main and 4th Cross Nanjappa Layout in Ward No. 10, BBMP, Bangalore.
Reference	: BBMP/AEE/VSD/52/2016-17 Dated: 20.08.2016
Technical Reference	: IS : 2386 Part 1 -1963 RA-2007
Sample ID	: Coarse Aggregates (20mm) - Sample 4
Sample Received on	: 20.08.2016
Date of Testing	: 22.08.2016

Total Wt. of Aggregates in gms= **5000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
40	100	100	100
20	97.14	95-100	85-100
10	29.96	25-55	0-20
4.75	4.88	0-10	0-5

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Remarks : This sample is under Graded specific limits

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Job No.: CTCE/BBMP/WNo.10/KRIDL/STEEL/2016-17 23.08.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	:	**Executive Engineer,** KRIDL, Bangalore.
Name of the Work	:	Improvements to roads and drains at 1st Main and 4th Cross Nanjappa Layout in Ward No. 10, BBMP, Bangalore.
Reference	:	BBMP/AEE/VSD/52/2016-17 Dated: 20.08.2016
Date of Test	:	23.08.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	8	0.40	510	552	13.15	O.K	O.K

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Job No.: CTCE/BBMP/WNo.10/KRIDL/STEEL/2016-17 23.08.2016

TEST REPORT ON REINFORCEMENT STEEL

Customer	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	:	**Executive Engineer,** KRIDL, Bangalore.
Name of the Work	:	Improvements to roads and drains at 1st Main and 4th Cross Nanjappa Layout in Ward No. 10, BBMP, Bangalore.
Reference	:	BBMP/AEE/VSD/52/2016-17 Dated: 20.08.2016
Date of Test	:	23.08.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	10	0.62	513	555	13.35	O.K	O.K

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Job No.: CTCE/BBMP/WNo.10/KRIDL/STEEL/2016-17 23.08.2016

TEST REPORT ON REINFORCEMENT STEEL

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Reference	:	BBMP/AEE/VSD/52/2016-17 Dated: 20.08.2016
Date of Test	:	23.08.2016
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	12	0.89	517	559	13.60	O.K	O.K

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Job No.: CTCE/BBMP/WNo.10/KRIDL/CSR-08/123i/CUBE/2016-17 22.09.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: **Executive Engineer,** KRIDL, Bangalore.
* Name of the work	: Improvements to roads and drains at 1st Main and 4th Cross Nanjappa Layout in Ward No. 10, BBMP, Bangalore.
Reference	: BBMP/AEE/VSD/52/2016-17 Dated: 20.08.2016
* Sample ID	: RCC Drain Bottom Slab Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 22.09.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	25.08.2016	22.09.2016	8.125	472.8	21.01
2	25.08.2016	22.09.2016	8.219	485.3	21.57
3	25.08.2016	22.09.2016	8.354	497.8	22.12

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Job No.: CTCE/BBMP/WNo.10/KRIDL/CSR-08/123i/CUBE/2016-17 24.09.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
* Agency	: **Executive Engineer,** KRIDL, Bangalore.
* Name of the work	: Improvements to roads and drains at 1st Main and 4th Cross Nanjappa Layout in Ward No. 10, BBMP, Bangalore.
Reference	: BBMP/AEE/VSD/52/2016-17 Dated: 20.08.2016
* Sample ID	: RCC Drain Side Wall Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
* Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day
Sample Received on	: 24.09.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	27.08.2016	24.09.2016	8.254	492.4	21.88
2	27.08.2016	24.09.2016	8.326	516.8	22.97
3	27.08.2016	24.09.2016	8.187	475.9	21.15

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Job No.: CTCE/BBMP/WNo.10/KRIDL/CSR-08/123i/CUBE/2016-17 27.09.2016

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

*** Agency** : **Executive Engineer,** KRIDL, Bangalore.

*** Name of the work** : Improvements to roads and drains at 1st Main and 4th Cross Nanjappa Layout in Ward No. 10, BBMP, Bangalore.

Reference : BBMP/AEE/VSD/52/2016-17 Dated: 20.08.2016

*** Sample ID** : Culvert Deck Slab Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : M_{20}

Compressive Strength as on : 28^{th} day

Sample Received on : 27.09.2016

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	30.08.2016	27.09.2016	8.218	479.8	21.32
2	30.08.2016	27.09.2016	8.327	493.5	21.93
3	30.08.2016	27.09.2016	8.451	515.8	22.92

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